

CLAIM AMENDMENTS

1-12 (canceled)

13. (currently amended) A swing door apparatus for controlling movement of a swing door, the swing door apparatus comprising

a swing arm for connection to the swing door,

an operation shaft connected to the swing arm whereby the operation shaft turns in accordance with the movement of the swing door,

a common potentiometer shaft coupled to the operation shaft whereby the potentiometer shaft turns in accordance with the turning movement of the operation shaft, the common potentiometer shaft having rotational freedom corresponding to the swinging movement of the swing door from a closed position to a fully open position, and

first and second potentiometers coupled with the common potentiometer shaft, shaft and each providing a signal that depends on door position, the first and second potentiometers having at least substantially identical characteristic curves and being curves, wherein the characteristic curve of each potentiometer is linear over a range having a magnitude at least as great as a range that substantially corresponds to the swinging movement of the door from its closed position to its fully open position and also includes a discontinuity, and wherein the potentiometers are arranged in conjunction with the common potentiometer shaft so that the respective characteristic curves are shifted in phase with respect to one ~~another~~ another, whereby the signals provided by the first and second potentiometers during the movement of the swing door are shifted in phase with respect to one another, and wherein the apparatus comprises a control unit which selects either the first potentiometer or the second potentiometer for the detection of door position so that the detection of door position is performed within the linear range of the selected potentiometer.

14. (previously presented) A swing door apparatus according to claim 13, wherein the respective characteristic curves are shifted in phase with respect to one another by substantially 180°.

15. (canceled)

16. (previously presented) A swing door apparatus according to claim 13, wherein the common potentiometer shaft is mounted to a drive wheel which is mechanically coupled to said operation shaft for turning the common potentiometer shaft.

17. (previously presented) A swing door apparatus according to claim 16, wherein the drive wheel is a gear that is in meshing engagement with a gear attached to the operation shaft.

18. (previously presented) A swing door apparatus according to claim 13, comprising an electric motor coupled drivingly to said operation shaft and a power source for supplying power to the electric motor, and wherein said potentiometers receive power from said power source.

19. (previously presented) A swing door apparatus according to claim 13, comprising a body structure to which the potentiometers are attached, and wherein each potentiometer has a slider member connected to the potentiometer shaft for turning therewith.

20-21 (canceled)

22. (previously presented) A swing door apparatus according to claim 13, wherein the common potentiometer shaft is parallel to, and laterally spaced from, the operation shaft and is connected to the operation shaft by a first gear wheel that is connected to the potentiometer shaft and a second gear wheel that is connected to the operation shaft and is in meshing engagement with the first gear wheel.

23. (currently amended) A swing door apparatus comprising a door hinged to a door frame, a swing arm connected to the door, and a control apparatus comprising an operation shaft connected to the swing arm whereby the operation shaft turns in accordance with the movement of the door,

a common potentiometer shaft coupled to the operation shaft whereby the potentiometer shaft turns in accordance with the turning movement of the operation shaft, the common potentiometer shaft having rotational freedom corresponding to the swinging movement of the swing door from a closed position to a fully open position, and

first and second potentiometers coupled with the common potentiometer shaft, shaft and each providing a signal that depends on door position, the first and second potentiometers having at least substantially identical characteristic ~~curves and being~~ curves, wherein the characteristic curve of each potentiometer is linear over a range having a magnitude at least as great as a range that substantially corresponds to the swinging movement of the door from its closed position to its fully open position and also includes a discontinuity, and wherein the potentiometers are arranged in conjunction with the common potentiometer shaft so that the respective characteristic curves are shifted in phase with respect to one another another, whereby the signals provided by the first and second potentiometers during the movement of the swing door are shifted in phase with respect to one another, and wherein the apparatus comprises a control unit which selects either the first potentiometer or the second potentiometer for the detection of door position so that the detection of door position is performed within the linear range of the selected potentiometer.

24. (previously presented) A swing door apparatus according to claim 23, wherein the control apparatus comprises an electric motor coupled drivingly to said operation shaft and a power source for supplying power to the electric motor, and wherein said potentiometers receive power from said power source.